

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Previously Presented) A method comprising:
positioning a delivery device at a location in a blood vessel;
imaging a thickness of a portion of a wall of the blood vessel at the location with an imaging assembly disposed in a lumen of the delivery device;
identifying a treatment site based on the imaging;
advancing the delivery device a distance into a wall of the blood vessel to the treatment site beyond an external elastic lamina of the blood vessel; and
after advancing the delivery device, introducing a treatment agent through the delivery device.
2. (Canceled)
3. (Currently Amended) The method of claim 1, wherein imaging ~~of a portion of a wall of the blood vessel~~ comprises ultrasonic imaging the portion of the blood vessel wall.
4. (Currently Amended) The method of claim 1, wherein imaging ~~of a portion of a wall of the blood vessel~~ comprises optical imaging the portion of the vessel wall.
5. (Original) The method of claim 1, wherein the treatment site comprises a peri-adventitial space.
6. (Original) The method of claim 1, wherein the treatment site comprises a site radially outward from a peri-adventitial space.
7. (Original) The method of claim 1, wherein the delivery device comprises a catheter and positioning the delivery device comprises positioning a delivery port for a needle of the catheter at a position upstream from an obstruction.

8. (Currently Amended) The method of claim 1, wherein the blood vessel is part of a network and another blood vessel in the network other than the blood vessel wherein the delivery device catheter is positioned comprises an obstruction.
9. (Currently Amended) The method of claim 1, ~~wherein the treatment agent is comprised in~~ further comprising a sustained release carrier including the treatment agent.
10. (Original) The method of claim 9, wherein the carrier comprises particles having an average diameter on the order of 10 microns or less.
11. (Original) The method of claim 10, wherein the carrier includes an opsonin-inhibitor.
12. (Original) The method of claim 1, wherein the treatment agent comprises an agent that induces an inflammation-inducing response.
13. (Original) The method of claim 12, wherein the treatment agent comprises a thermally conductive material, and the method further comprises, following introducing the treatment agent, heating the treatment agent.
14. (Currently Amended) The method of claim 1, wherein the treatment agent comprises an agent directed to a specific binding site, and wherein the treatment agent is operable to stimulate angiogenesis.
- 15-22. (Cancelled)
23. (Currently Amended) A composition comprising:
at least one treatment agent disposed in a carrier, wherein the carrier comprises particles having an average diameter of up to 10 microns; and
an opsonin-inhibitor coupled to the carrier.
24. (Cancelled)
25. (Original) The composition of claim 23, wherein the treatment agent comprises an agent directed to specific binding sites.

26. (Original) The composition of claim 23, wherein the treatment agent comprises an inflammation-inducing agent.
27. (Currently Amended) The composition of claim 23, wherein the carrier is selected to sustain the effectiveness of the treatment agent for a period selected from 1 day to 10 weeks.
28. (Currently Amended) An apparatus comprising:
a catheter body capable of traversing a mammalian blood vessel;
a dilatable balloon assembly coupled to the catheter body comprising a balloon having a proximal wall;
at least one needle body disposed within the catheter body and comprising a lumen having dimensions suitable for a needle to be advanced therethrough, the at least one needle body comprising an end coupled to the proximal wall of the balloon;
an imaging body disposed within the catheter body and comprising a lumen having dimensions suitable for a portion of an imaging device to be advanced therethrough and adapted to be shared simultaneously or sequentially with a guidewire; and
a portion of an imaging device disposed within the imaging body and capable of moving within the lumen of the imaging body and adapted to generate imaging signals of the blood vessel.
29. (Original) The apparatus of claim 28, wherein the imaging device comprises one of an optical imaging device and an ultrasonic imaging device.
30. (Original) The apparatus of claim 28, wherein the imaging body comprises a first transparent portion and a second portion with the first portion extending from a proximal end of the catheter body through a portion of the balloon, and the first portion is adapted to comprise an imaging device and the second portion is adapted to comprise a guidewire.
31. (Original) The apparatus of claim 30, wherein the first portion of the imaging body is separated from the second portion of the imaging body by a plug.
32. (New) The method of claim 1, wherein imaging the thickness comprises imaging the thickness with optical coherence tomography.

33. (New) The composition of claim 23, wherein the particles are coated with the opsonin-inhibitor.
34. (New) The composition of claim 23, wherein the opsonin-inhibitor comprises at least one of polyethylene glycol, polyalkylene glycol, a copolymer of polyalkylene glycol, phosphorylcholine, and a biomimetic dextran structure.
35. (New) The composition of claim 23, wherein the treatment agent comprises an agent that is operable to stimulate angiogenesis.
36. (New) The apparatus of claim 28, wherein the end of the needle body that is coupled to the proximal wall of the balloon is operable to move in response to inflation of the balloon to form a bend region.
37. (New) The apparatus of claim 28, wherein the imaging device comprises an optical coherence tomography device.
38. (New) A method comprising:
positioning a delivery device at a location in a blood vessel;
advancing the delivery device a distance into a wall of the blood vessel to a treatment site beyond an external elastic lamina of the blood vessel; and
after advancing the delivery device, introducing a treatment agent through the delivery device,
wherein the treatment agent comprises an inflammation-inducing agent.
39. (New) The method of claim 38, wherein the treatment agent further comprises an agent directed to specific binding sites that is operable to stimulate angiogenesis.
40. (New) The method of claim 38, wherein the treatment agent comprises carrier particles including the inflammation-inducing agent and have a sustained-release property within a physiological setting.
41. (New) The method of claim 38, wherein the inflammation-inducing agent comprises at least one of a sol-gel particle, a silica particle, a glass including iron, chitin, fibrin, bacterial polysaccharides, vaccines, and particles of metal.

42. (New) The method of claim 38, wherein the inflammation-inducing agent comprises at least one of a polycaprolactone, a polyhydroxybutyrate-valerate, a poly(oxy)ethylene, a polyurethane, and a silicone.

43. (New) The method of claim 38, wherein the carrier particles comprise at least one selected from poly (L-lactide), poly (D,L-lactide), poly (glycolide), poly (lactide-co-glycolide), polycaprolactone, polyanhydride, polydiacetonone, polyorthoester, polyamino acids, poly (trimethylene carbonate), and combinations thereof.